



MCH Data Brief

March 2013

Kentucky Department for Public Health, Division of Maternal & Child Health

Smoking during Pregnancy

Smoking during pregnancy is associated with numerous adverse reproductive outcomes (infertility, delayed pregnancy), pregnancy complications (premature rupture of membranes, placental anomalies) and long term consequences for children (sudden infant death syndrome, respiratory problems).^{2,3} Prenatal smoking is associated with 30% of small for gestational age infants and 10% of preterm infants.⁴

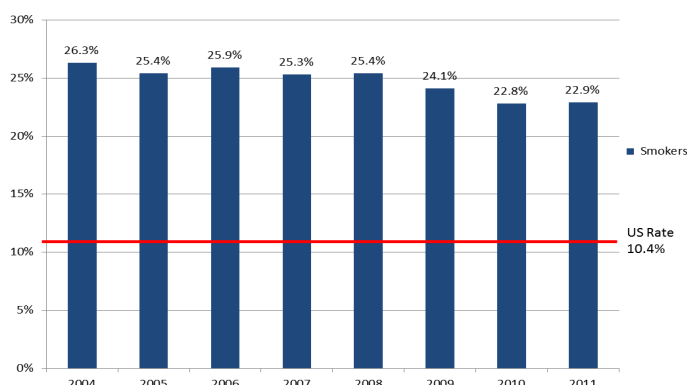
There are great costs associated with smoking in pregnancy. The direct medical costs of a complicated birth are 66% higher for smokers than for nonsmokers, reflecting the greater severity of complications and the more intensive care that is required.⁵ Smoking attributable neonatal expenditures in Kentucky were \$4,635,355 based on 2003 smoking prevalence rates.⁶

Smoking before and during pregnancy is the single most preventable cause of illness and death among mothers and infants.¹

Kentucky Data

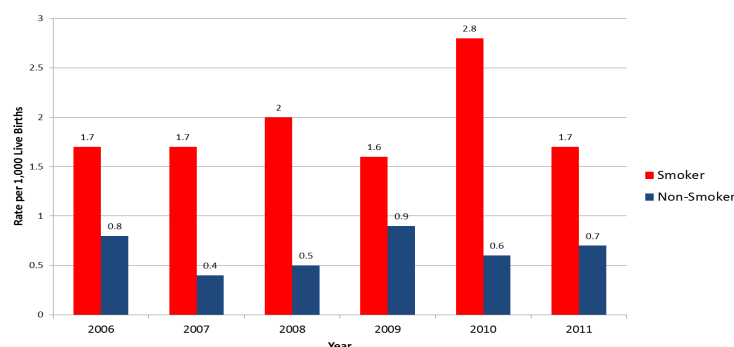
- ◆ Kentucky has historically had the second worst rate of smoking in pregnancy among all states and the District of Columbia.⁷
- ◆ An estimated 10.4% of women nationwide report smoking during pregnancy.⁸ Kentucky has more than double that percentage.
- ◆ Kentucky is beginning to see progress. Kentucky has experienced a 13% decline in the percentage of women who report smoking during any trimester of pregnancy on the live birth certificate from 26.3% in 2004 to 22.9% in 2011.

Percentage of Kentucky Resident Women Who Report Smoking in Any Trimester of Pregnancy, 2004-2011



Data Source: Kentucky Live Birth Certificate Files, 2004-2011.
2009-2011 data are preliminary and numbers may change.

Infant Mortality Rate* Due to SIDS by Smoking Status during Pregnancy; Kentucky, 2006-2011**



*Rates are per 1,000 Live Births by Smoking Status. SIDS deaths are based on the ICD10 code R95.

**2009-2011 data are preliminary and numbers may change.

Source: Kentucky Vital Statistics Files; Linked Live Birth and Death Certificate Files; 2006-2011.

Note: Death Certificates that could not be linked to a birth certificate were excluded from the analysis

Kentucky's Child Outcomes

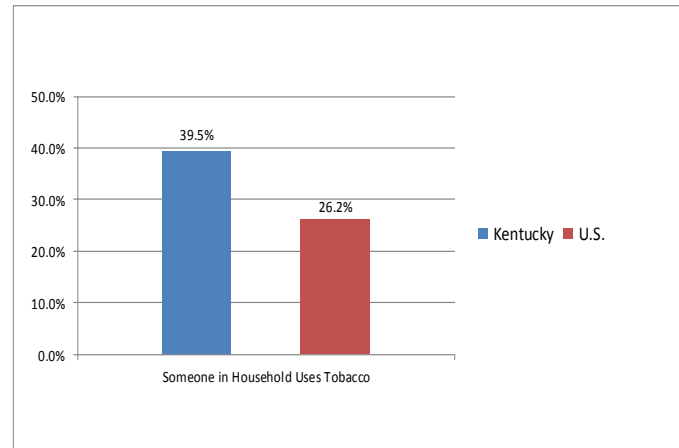
- ◆ According to a study of 2004-2008 birth certificate files, women who continue to smoke during pregnancy have double the odds to have a baby with low birth weight and to not initiate breastfeeding compared to nonsmokers. They also had 25% higher odds of having a preterm birth.⁹
- ◆ Babies born to women who smoke during pregnancy in Kentucky are 2-5 times more likely to die from Sudden Infant Death Syndrome (SIDS) than babies born to nonsmokers.
- ◆ Being in a home where there is smoking adds to the baby's risk of dying from SIDS.

The United States Preventive Services Task Force recommends that all pregnant women of any age be asked about their tobacco use and that smokers be provided pregnancy-tailored counseling.¹⁰ A 5-A framework is recommended as a useful counseling strategy that includes the following components: 1) **Ask** about tobacco use; 2) **Advise** to quit through clear personalized messages; 3) **Assess** willingness to quit; 4) **Assist** to quit; and 5) **Arrange** follow-up and support.

Secondhand Smoke Exposure

- Secondhand smoke contains approximately 7,000 chemicals, many of which are known carcinogens.
- Children exposed to secondhand smoke have increased risks for respiratory infections, sudden infant death syndrome (SIDS), and ear infections
- Kentucky is the **WORST** of all state on children living in households where someone smokes, according to the 2007 National Survey of Children's Health:¹¹
 - 39.5% of Kentucky households have someone in the household that uses tobacco compared to 26.2% nationwide.

Tobacco Use in Kentucky Households With Children Ages 0-17 Years



Source: 2007 National Survey of Children's Health

Impact of Smoke-free Ordinances on Perinatal Outcomes¹⁴

Outcome	Prior to Ordinance (%)	Post Ordinance (%)
Low Birth Weight	7.44	7.15
Preterm Birth	10.7	9.2*
Smoking Prior to Pregnancy	23.8	19.5*

Data source: Kentucky Live Birth Certificate Files, 2004-2009.

2009 Data are preliminary and numbers may change.

* Statistically significant at $p < 0.05$

Smoke-Free Ordinances

According to the 2007 Surgeon General's Report, there is no safe level of secondhand smoke exposure, and the only means to protect children is the elimination of smoking in indoor spaces.¹² In Kentucky, there are 36 smoke-free community-wide ordinances or regulations with 34% of all Kentuckians covered by 100% smoke-free workplace ordinances or regulations.¹³ An analysis of the role of smoke-free ordinances on perinatal outcomes revealed statistically significant reductions in preterm birth and smoking prior to pregnancy when comparing communities after implementation of a smoke-free ordinance to prior to the ordinance.

Collaborative Improvement & Innovation Network (ColIN): Smoking Cessation Strategies:¹⁵

Strategies focus on:

- Providing information/training to providers on evidence-based tobacco cessation interventions*
- Promote the use of Quit Lines*
- Encourage Medicaid programs to support Quit Lines; increase reimbursement rates for providers*
- Engage community partners in smoking cessation activities and messages*
- Identify best practices/innovations in cessation strategies among pregnant/postpartum women*

References:

- ¹ Centers for Disease Control and Prevention. (2007). Preventing Smoking and Exposure to Secondhand Smoke Before, During and After Pregnancy. Retrieved February 12, 2013 from <http://www.cdc.gov/nccdphp/publications/factsheets/Prevention/pdf/Smoking.pdf>.
- ² U.S. Department of Health and Human Services. (2001). *Women and Smoking: A Report of the Surgeon General*. Washington, D.C.
- ³ U.S. Department of Health and Human Services. (2004). *The Health Consequences of Smoking: A Report of the Surgeon General*. Washington, D.C.
- ⁴ Tong, V. T., Jones, J. R., Dietz, P. M., D'Angelo, D., & Bombard, J. M. (2009). Trends in smoking before, during, and after pregnancy - Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 31 sites, 2000-2005. *MMWR Surveill Summ*, 58(4), 1-29.
- ⁵ Centers for Disease Control and Prevention. (1997) Medical-care expenditures attributable to cigarette smoking during pregnancy - United States, 1995. *Morbidity and Mortality Weekly Report*; 46:1048-1050.
- ⁶ MCH Smoking-Attributable Mortality, Morbidity and Economic Costs (SAMMEC), Economic Outcomes Report. Retrieved February 13, 2013 from https://apps.nccd.cdc.gov/sammecc/mch_exp_list.asp?Print=Y.
- ⁷ Centers for Disease Control and Prevention. (2004). Smoking during pregnancy—United States, 1990-2002. *MMWR Morb Mortal Wkly Rep*, 53(39), 911-915.
- ⁸ Martin, J. A., Hamilton, B. E., Sutton, P. D., Ventura, S. J., Mathews, T. J., Kirmeyer, S., & Osterman, M. J. (2010). Births: final data for 2007. *Natl Vital Stat Rep*, 58(24), 1-85.
- ⁹ Robl, J.M., Charnigo, R., Noland, M and Shepherd, R.A. (2011). *The Role of Smoking in Adverse Birth Outcomes and Characteristics of Women Who Quit*. Oral presentation, Maternal and Child Health Epidemiology Conference.
- ¹⁰ Fiore MC, Jaen CR, Baker TB, et al. (2008). *Treating Tobacco Use and Dependence: 2008 Update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service.
- ¹¹ Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health. Retrieved February 13, 2013 from <http://childhealthdata.org>.
- ¹² U.S. Department of Health and Human Services. (2007). *Children and Secondhand Smoke Exposure. Excerpts from the Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
- ¹³ University of Kentucky Tobacco Policy Research Program. Counties/Cities with smoke-free community-Wide Ordinances/Regulations in Kentucky. Retrieved February 13, 2013 from <http://www.mc.uky.edu/tobaccopoly/Ordinances/Smoke-freeOrdinances.HTM>.
- ¹⁴ Ashford, K., Robl, J. Shepherd, R.A., and McCubbin, A. (2012). Examining the Impact of smoke Free Laws on Preterm Birth. Oral presentation, American Public Health Association.
- ¹⁵ Ghandour R., Presentation: *Collaborative Improvement & Innovation Network (ColIN) 101*. Presented February 10, 2013.